

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L8	7	("4806504"   "5279704"   "5449639"   "5486234"   "5942449"   "6010931").PN. OR ("6436809").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/07 12:27
L9	679	("238"/\$.ccls. "438"/\$.ccls. ) and align\$ with (recess\$ opening mark\$4) same etch\$ and (sacrific\$ plug) same (mark recess opening)	USPAT	OR	ON	2007/02/07 12:39
L10	800	("238"/\$.ccls. "438"/\$.ccls. ) and align\$ near4(recess\$ opening mark\$4) same etch\$ and (sacrific\$ plug) same (mark recess opening)	US-PGPUB; USPAT	OR	ON	2007/02/07 12:39
L11	562	("238"/\$.ccls. "438"/\$.ccls. ) and align\$ near3 (recess\$ opening mark\$4) same etch\$ and (sacrific\$ plug) with (mark recess opening)	US-PGPUB; USPAT	OR	ON	2007/02/07 14:31
L12	2670	438/631,672,462.ccls.	US-PGPUB; USPAT	OR	ON	2007/02/07 14:31
L13	458	438/631,672,462.ccls. and align\$. clm.	US-PGPUB; USPAT	OR	ON	2007/02/07 14:31
L14	116	438/631,672,462.ccls. and align\$. clm. and (polish\$.clm. planar.clm.)	US-PGPUB; USPAT	OR	ON	2007/02/07 14:32
L15	177	438/631,672,462.ccls. and align\$. clm. and (polish\$.clm. planar\$.clm.)	US-PGPUB; USPAT	OR	ON	2007/02/07 14:32
S1	11859	"438"/\$.ccls. and align\$4 with (mark\$4 notch\$ etch\$ recess)	US-PGPUB; USPAT	OR	ON	2006/09/28 19:19
S2	16	US-6232200-\$.DID. OR US-6080636-\$.DID. OR US-6271602-\$.DID. OR US-6307273-\$.DID. OR US-6528386-\$.DID. OR US-6534378-\$.DID. OR US-6562710-\$.DID. OR US-6562691-\$.DID. OR US-6599809-\$.DID. US-5492269-\$. DID. OR US-5663099-\$.DID. OR US-3242770-\$.DID. "20020098707" "20020096775" "20010049177" "20010010938"	US-PGPUB; USPAT	OR	ON	2006/09/28 18:37
S3	3	("5578519"   "6020263"   "6133111").PN. OR ("6599809").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 18:48
S4	5601	"438"/\$.ccls. and alignment\$4 with (mark\$4 notch\$ etch\$ recess)	US-PGPUB; USPAT	OR	ON	2006/09/28 19:22

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S5	1199	"438"/\$.ccls. and alignment\$4 with (mark\$4 notch\$ etch\$ recess) same metal	US-PGPUB; USPAT	OR	ON	2006/09/28 19:22
S6	1733	"438"/\$.ccls. and alignment\$4 with (mark\$4 notch\$ etch\$ recess) with substrate	US-PGPUB; USPAT	OR	ON	2006/09/28 19:23
S7	141	"438"/\$.ccls. and alignment\$4 with (mark\$4 notch\$ etch\$ recess) with substrate and alignment\$4 with (mark\$4 notch\$ etch\$ recess) with via	US-PGPUB; USPAT	OR	ON	2006/09/28 19:24
S8	4	("20020050651"   "20020060354"). PN. OR ("6562710").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 19:50
S9	12	("5270255"   "5271798"   "5316966"   "5496777"   "5532520"   "5627624"   "5640053"   "5705320"   "5733801").PN. OR ("6054361"). URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 19:57
S10	36	("20020005594"   "20020072195"   "20030102576"   "5065765"   "5538819"   "5712189"   "5739575"   "5747842"   "5889298"   "5920121"   "5937286"   "5943581"   "6025261"   "6054361"   "6080635"   "6081040"   "6093640"   "6100176"   "6121126"   "6133111"   "6136662"   "6157087"   "6215197"   "6228744"   "6303460"   "6303472"   "6352904"   "6352909"   "6383924"   "6417072"   "6462428"   "6576529"   "6579738"   "6667221"   "6696746"   "6740564").PN. OR ("6949839").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 20:01
S11	42	sacrific\$ with bilayer	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 20:14
S12	23	mram and alignment\$ with mark	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 20:38
S13	50	(tantalum adj nitride tan ) and (ta tantalum ) with (cu copper) with bilayer	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 20:39
S14	2	(tantalum adj nitride tan ) and (ta tantalum ) with (cu copper) with bilayer and mram	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 20:39
S15	3	(tantalum adj nitride tan ) and (ta tantalum ) same (cu copper) same bilayer and mram	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 20:46

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S16	60	(tantalum adj nitride tan ) and (ta tantalum ) with (cu copper) same (strap electrode) and mram	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 22:42
S17	5413	mram	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 22:42
S18	120	mram and strap	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 22:52
S19	70	alignment with mark and copper with diffus\$	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 22:53
S20	18	alignment with mark same copper and copper with diffus\$	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 23:05
S21	71	"438"/\$.ccls. and alignment with mark same copper	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 23:06
S22	28	"438"/\$.ccls. and alignment with mark same copper and (etch\$ remov\$4) with copper	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 23:31
S23	856	"438"/401,975.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 23:31
S24	148	"438"/401,975.ccls. and copper	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 23:32
S25	82	"438"/401,975.ccls. and copper and (cmp polish\$)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 23:33
S26	7	"438"/401,975.ccls. and copper and (cmp polish\$) and mram	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 23:39
S27	85	via same tan with barrier same (ta tantalum ) with adhesion same copper	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/28 23:40
S28	1	"6599809".pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/29 10:42
S29	1	"6599809".pn. and (vapor pvd cvd)	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/29 10:53
S30	802	(pvd cvd vapor adj deposition) with tungsten with tantalum	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/29 10:59

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S31	69	(pvd cvd vapor adj deposition) with tungsten with tantalum and phosphoric with acid	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:02
S32	9	(pvd cvd vapor adj deposition) with tungsten with tantalum with copper and phosphoric with acid	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:04
S33	74	(pvd cvd vapor adj deposition) same tungsten with tantalum with copper and phosphoric with acid	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:06
S34	13	(pvd cvd vapor adj deposition) with tungsten with tantalum with copper with via	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:09
S35	29	(pvd cvd vapor adj deposition) with tungsten with tantalum with copper same via	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:20
S36	11	phosphoric with acid with etch with tungsten	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:21
S37	51	phosphoric with acid with etch\$ with tungsten	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:21
S38	32	"438"/\$.ccls. and phosphoric with acid with etch\$ with tungsten	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:21
S39	29	"438"/\$.ccls. and phosphoric adj acid with etch\$ with tungsten	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:29
S40	0	"438"/\$.ccls. and phosphoric adj acid with dilut\$ with tungsten	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:29
S41	12	"438"/\$.ccls. and phosphoric adj acid with dilut\$ same tungsten	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:36
S42	10	phosphoric adj acid with dilut\$ with tungsten	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:33
S43	16	"438"/\$.ccls. and phosphoric adj acid with dilut\$ same copper	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:37
S44	9	"438"/\$.ccls. and phosphoric adj acid with dilut\$ with copper	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:41
S45	20	"438"/\$.ccls. and alignment adj mark and mram	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:55

## EAST Search History

S46	24	"438"/\$.ccls. and strap and mram	US-PGPUB; USPAT; USOCR	OR	ON	2006/09/29 11:55
S47	9	("20010041401"   "20020097600"   "20030073251"   "5702831"   "5734605"   "6544801"   "6611453"   "6638774"   "6713802").PN. OR ("6977181").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2006/09/29 11:59
S48	1663	"438"/\$.ccls. and align\$ with mark\$4	USPAT	OR	OFF	2007/02/06 17:32
S49	1668	("238"/\$.ccls. "438"/\$.ccls. ) and align\$ with mark\$4	USPAT	OR	OFF	2007/02/06 17:32
S50	768	("238"/\$.ccls. "438"/\$.ccls. ) and align\$ with mark\$4 same etch\$	USPAT	OR	OFF	2007/02/06 17:33
S51	177	("238"/\$.ccls. "438"/\$.ccls. ) and align\$ with mark\$4 same etch\$ and (sacrific\$ plug)	USPAT	OR	OFF	2007/02/07 12:35
S52	7	("5486234"   "5942449").PN. OR ("6140233").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/06 17:50
S53	4	"6140233" and planar\$	USPAT	OR	OFF	2007/02/06 18:27
S54	7	("4806504"   "5279704"   "5449639"   "5486234"   "5942449"   "6010931").PN. OR ("6436809"). URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/02/06 18:30